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09/609,307	06/30/2000	Mikael Sylvest	042390.P8719	2485

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Blakely Sokoloff Taylor & Zafman LLP  
Attn: Gregory D Caldwell  
12400 Wilshire Boulevard  
Seventh Floor  
Los Angeles, CA 90025

EXAMINER

NG, CHRISTINE Y

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/609,307

Applicant(s)

SYLVEST ET AL.

Examiner

Christine Ng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,9,11,12,14-16,23,25,26 and 28 is/are rejected.
- 7) ☒ Claim(s) 3-8,10,13,17-22,24 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 9, 11, 14-16, 23, 25, and 28 are rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Patent No. 6,535,491 to Gai et al.

Referring to claim 1, Gai et al disclose in Figures 1 and 2 a method of reporting a spanning tree to a distributed dictionary (bridge protocol data units or BPDUs) for a plurality of nodes (Figure 1, Elements 114-116 and 120-125) comprising a network (Figure 1, Element 100). The plurality of nodes (Figure 1, Elements 114-116 and 120-125) adopts the spanning tree from the distributed dictionary (BPDUs) in a coordinated manner to avoid a transient topology loop in the network. The BPDUs allow nodes to “calculate a spanning tree or active topology, which is a subset of the network that is loop-free and yet connects every pair of LANs within the network” (Column 2, lines 29-32). The nodes use the information contained in the BPDUs to “calculate the tree in accordance with the algorithm and typically elect to sever or block all of the redundant links, leaving a single communication path” (Column 2, lines 33-36).

Referring to claims 2 and 16, Gai et al disclose a method wherein reporting the spanning tree includes performing at least one iteration of a reporting task (Figure 3D) to disable links to be removed from among the plurality of nodes (Figure 1, Element 114-116 and 120-125). Gai et al give an example with respect to Figure 1 when the link (Element 128 from port number 3) of a switch (Element 114) fails and is removed from among the plurality of nodes (Figure 1, Elements 114-116 and 120-125). Refer to Column 11, lines 31-47. Gai et al also disclose performing one additional iteration of the reporting task (Figure 3D) to enable links to be added among the plurality of nodes (Figure 1, Elements 114-116 and 120-125) only after the links to be removed have been disabled. After the link (Element 128 from port number 3) to be removed has been disabled, another link (Element 128 from port number 4) is added among the plurality of nodes (Figure 1, Elements 114-116, and 120-125). Refer to Column 12, lines 8-22.

Referring to claim 9, Gai et al discloses in Figures 1 and 2 a method of adopting a spanning tree from a distributed dictionary (bridge protocol data units or BPDUs) in a manner coordinated throughout a plurality of nodes (Figure 1, Elements 114-116 and 120-125) comprising a network (Figure 1, Element 100) to avoid a transient topology loop in the network. To adopt a spanning tree, BPDUs are received at ports (Figure 2, Elements 230) of a switch (Figure 2, Element 214) and then passed to the spanning tree engine (Figure 2, Element 236) and processed. Spanning tree engine (Figure 2, Element 236) compares the information contained the received BPDUs with the original information stored in spanning tree table (Figure 2, Element 242). If the information in the received BPDU is better, spanning tree engine (Figure 2, Element 236) adopts the

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spanning tree by entering the received information into the table (Figure 2, Element 242). Refer to Column 10, lines 9-21.

Referring to claims 11 and 25, Gai et al disclose in Figure 2 that as BPDUs are received at the ports (Elements 230) of a switch (Element 214), they are passed into the spanning tree engine (Element 236) and processed. The spanning tree engine (Element 236) compares information contained in the received BPDUs with information stored in its spanning tree table (Element 242). If the information in the BPDU is better than the stored information, the spanning tree engine (Element 236) acknowledges the adoption of the spanning tree by entering the received information into its spanning tree table (Element 242). Refer to Column 10, lines 9-21.

Referring to claims 14 and 28, Gai et al disclose a method wherein adopting the spanning tree includes performing at least one iteration of an adoption task (Figure 3D) to disable ports corresponding to links to be removed from a previous spanning tree. Gai et al give an example with respect to Figure 1 when a port (Figure 1, port number 3 of Element 114) is disabled and the port's corresponding link (Element 128 from port number 3) is removed. Refer to Column 11, lines 31-47. Gai et al also disclose performing one additional iteration of the adoption task (Figure 3D) to enable any ports corresponding to links to be added from the previous spanning tree only after the links to be removed have been disabled. After the port (Figure 1, port number 3 of Element 114) is disabled, another port (Figure 1, port number 4 of Element 114) corresponding to a link (Element 128 from port number 4) is added from the previous spanning tree by the spanning tree engine (Element 236) only after the links (Element 128 from port

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number 3) to be removed have been removed. The rapid reconfiguration entity (Figure 2, Element 234) directs the spanning tree engine (Figure 2, Element 236) to transition the new port (Figure 1, port number 4 of Element 114) to the forwarding state. Refer to Column 12, lines 8-22 and lines 27-37.

Referring to claim 15, Gai et al discloses in Figures 1 and 2 a machine readable storage medium having store executable instructions to implement reporting a spanning tree to a distributed dictionary (bridge protocol data units or BPDUs) for a plurality of nodes (Figure 1, Elements 114-116 and 120-125) comprising a network (Figure 1, Element 100). The plurality of nodes (Figure 1, Elements 114-116 and 120-125) adopts the spanning tree from the distributed dictionary (BPDUs) in a coordinated manner to avoid a transient topology loop in the network. The BPDUs allow nodes to "calculate a spanning tree or active topology, which is a subset of the network that is loop-free and yet connects every pair of LANs within the network" (Column 2, lines 29-32). The nodes use the information contained in the BPDUs to "calculate the tree in accordance with the algorithm and typically elect to sever or block all of the redundant links, leaving a single communication path" (Column 2, lines 33-36). The spanning tree engine (Figure 2, Element 236) can "formulate and transmit BPDU frames from each port" (Column 9, lines 66-67). Furthermore, the spanning tree engine (Figure 2, Element 236) preferably comprises programmable processing elements containing software programs that are executable by the processing elements. "Other computer readable media may also be used to store and execute the program instructions" (Column 8, lines 46-47).

Referring to claim 23, Gai et al discloses in Figures 1 and 2 a machine readable storage medium having stored executable instructions to implement adopting a spanning tree from a distributed dictionary (bridge protocol data units or BPDUs) in a manner coordinated throughout a plurality of nodes (Figure 1, 114-116 and 120-125) comprising a network (Figure 1, Element 100) to avoid a transient topology loop in the network. To adopt a spanning tree, BDPUs are received at ports (Figure 2, Elements 230) of a switch (Figure 2, Element 214) and then passed to the spanning tree engine (Figure 2, Element 236) and processed. Spanning tree engine (Figure 2, Element 236) compares the information contained the received BDPUs with the original information stored in spanning tree table (Figure 2, Element 242). If the information in the received BPDUs is better, spanning tree engine (Figure 2, Element 236) adopts the new spanning tree by entering the received information into the table (Figure 2, Element 242). Refer to Column 10, lines 9-21. Furthermore, the spanning tree engine (Figure 2, Element 236) preferably comprises programmable processing elements containing software programs that are executable by the processing elements. "Other computer readable media may also be used to store and execute the program instructions" (Column 8, lines 46-47).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,535,491 to Gai et al in view of U.S. Patent No. 6,611,502 to Seaman. Gai et al does not disclose registering an incarnation identifier of a most currently adopted spanning tree to the distributed dictionary. Seaman teach that the most currently adopted spanning tree can be identified by an incarnation identifier, which may be a higher priority root, a current root along a lower cost path, or more recent information from the current root at the current path cost. Refer to Column 3, lines 2-14. The identifier is registered to the distributed dictionary (BPDUs), as shown in Figure 2, in the root identifier (octets 6-13), root path cost (octets 14-17), or message age (octets 28-29), respectively. Refer to Column 9, lines 17-67 to Column 10, lines 1-8. Therefore, it would be obvious to one of ordinary skill at the time the invention was made to include registering an incarnation identifier of a most currently adopted spanning tree to the distributed dictionary in order to propagate the most recent (better) information contained in the BPDU to all ports of a bridge.

***Allowable Subject Matter***

5. Claims 3-8, 10, 13, 17-22, 24, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,111,858 to Greaves et al.



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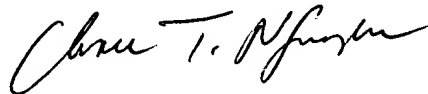
U.S. Patent No. 6,515,969 to Smith.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (703) 305-8395. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Chau can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8395.

C. Ng <sup>6,3</sup>  
September 3, 2003



CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600